

Claims**1. Method for recognizing speech,**

comprising the steps of

- receiving (S0) a speech input (SI),

- generating (S1) a set of ordered hypotheses (OH), wherein each hypothesis
5 contains at least one hypothesis word,

- generating (S2) attribute information (AI) for at least one of said at least
one hypothesis word, the attribute information being generated to be de-
scriptive for syntactic and/or semantic information and/or the like of a re-
spective hypothesis word,

- using (S3) a language model (LM) which is based on said attribute informa-
10 tion (AI) to calculate word probabilities for said at least one of said at least
one hypothesis word, which word probabilities are descriptive for the poste-
rior probabilities of the respective hypothesis word given a plurality of previ-
ous hypothesis words,

- using (S4) said word probabilities for generating a set of re-ordered hy-
15 potheses (ROH),

- choosing (S5) at least one best hypothesis (BH) from said set of re-ordered
hypotheses (ROH) as a recognition result (RR),

- outputting (S6) said recognition result.

2. The method according to claim 1,

characterized by

generating said attribute information (AI) for a combination of hypothesis
words, wherein the attribute information (AI) is descriptive for syntactic
25 and/or semantic information and/or the like of the combination of hypothe-
sis words.

3. The method according to any one of the preceding claims,

characterized in that

said word probabilities are determined using a trainable probability estima-
30 tor (TPE), in particular an artificial neural network (ANN).

4. The method according to claim 3,

characterized in that

said artificial neural network (ANN) is a time delay neural network, a recur-
35 rent neural network or a multilayer perceptron network.

5. The method according to claims 3 or 4,
characterized by
generating a feature vector (FV) that is used as input for said trainable probability estimator (TPE), which feature vector (FV) contains coded attribute
5 information.
6. The method according to claim 5,
characterized by
applying a method for dimensionality reduction to the feature vector (FV).
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7. The method according to claim 6,
characterized in that
said method for dimensionality reduction is based on principal component
analysis, latent semantic indexing, and/or random mapping projection
15 (RMP).
8. The method according to any one of the preceding claims,
characterized in that
a standard language model is applied additionally to said language model
20 (LM).
9. Speech processing system,
which is capable of performing or realizing a method for recognizing speech
according to any one of the preceding claims 1 to 8 and/or the steps thereof.
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10. Computer program product,
comprising computer program means adapted to perform and/or to realize
the method of recognizing speech according to any one of the claims 1 to 8
and/or the steps thereof, when it is executed on a computer, a digital signal
30 processing means, and/or the like.
11. Computer readable storage medium,
comprising a computer program product according to claim 10.
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